

Claims

- [c1] A circuit board transferring apparatus comprising:
a moving mechanism for vacuum-attracting and picking up a circuit board by an attracting nozzle and transferring the circuit board to a carrying tray on whose surface an adhesive layer is formed;
an imaging unit for photographing the pad forming face of the circuit board picked up by the attracting nozzle;
image processing means for processing the image photographed by the imaging unit and recognizing the arrangement of pads; and
positioning means for deciding a transfer position of the circuit board on the carrying tray in accordance with a recognition result by the image processing means.
- [c2] The circuit board transferring apparatus according to claim 1, wherein the circuit board picked up by the attracting nozzle is mounted on a photographing table to photograph the pad forming face with the image processing means, then the position on the circuit board specified by the positioning means is vacuum-attracted by the attracting nozzle again, and thereby the circuit board picked up again at a correct position is transferred

to a predetermined position on the carrying tray.

[c3] A circuit board transferring method comprising:
a step of photographing the pad forming face of a circuit board to recognize pad arrangement through image processing when vacuum-attracting and picking up the circuit board by an attracting nozzle and transferring the circuit board to a carrying tray on whose surface an adhesive layer is formed; and
a step of deciding the transfer position of the circuit board on the carrying tray in accordance with the recognition result of the pad arrangement.

[c4] A solder ball mounting method comprising:
a step of vacuum-attracting and picking up a plurality of solder balls from a ball housing vessel by an attracting nozzle;
a step of simultaneously transferring the picked-up solder balls to a plurality of pads formed on a plurality of circuit boards transferred to a carrying tray by the circuit board transferring apparatus of claim 1; and
a step of welding the solder balls transferred to the pads by applying a heat treatment to the solder balls transferred onto the pads.